This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:** 

1. (Currently amended) A method for assaying an activation state of a platelets

comprising detecting catalysis of

(a) providing a mixture comprising said platelets, a prothrombin-converting enzyme and

a modified prothrombinase substrate of said prothrombin-converting enzyme[[,]]; and

(b) assaying a product produced in step (a) to a modified prothrombinase product,

wherein said product having the property that said product does not activate platelets, by a

prothrombinase which is associated with the platelet.

2. (Currently amended) The method of claim 1 wherein said substrate is a modified

prothrombin and said the detection of the catalysis of a modified prothrombinase substrate

comprises detecting the production of product is a modified thrombin, wherein said thrombin

does not activate platelets.

3. (Currently amended) The method of claim 1 2 wherein detecting assaying the

eatalysis of a said modified thrombin prothrombinase substrate comprises detection assaying a

catalytic activity of said modified thrombin catalytic activity.

4. (Currently amended) The method of claim 1 wherein said prothrombin-converting

enzyme is exogenous the prothrombinase enzyme comprises factor Xa, factor Va and one or

more members selected from the group consisting of a PS:PC vesicle and a platelet.

5. (Currently amended) The method of claim 1 2 wherein said modified prothrombin the

modified prothrombinase substrate comprises prothrombin which is chemically derivatized by

the addition of one or more chemical groups selected from the group consisting of an acyl group,

an acetyl group, a succinyl group, a maleyl group, a polyethylene glycol group, an acetylated

polyethylene glycol group, a pyridoxal 5'-phosphate and group

dichlorotriazinylaminofluorescinyl group.

6. (Currently amended) The method of claim 5 wherein said modified prothrombin the modified prothrombinase substrate comprises prothrombin which is chemically derivatized by

the addition of an acetyl group wherein the acetyl group is donated by sulfo-N-succinimidyl

acetate.

7. (Currently amended) The method of claim  $\pm 2$  wherein said modified prothrombin the

modified prothrombinase substrate is a product of an allele of a prothrombin gene selected from

the group consisting of Metz and Quick I.

8. (Currently amended) The method of claim 2 3 wherein said assaying activity the

detection of said modified thrombin comprises an assay selected from the group consisting of a

Western blot, an Enzyme Linked ImmunoSorbent Assay, an immunodiffusion assay, a surface

plasmin plasmon resonance assay, and a fluorescence proximity assay.

9-10. (Canceled)

11. (Currently amended) The method of claim 3 wherein the detection said assaying of

<u>catalytic activity</u> modified thrombin catalytic activity comprises detecting cleavage of a peptide.

12. (Currently amended) The method of claim 11 wherein the peptide is glycyl-L-prolyl

L-arginine wherein the amino terminal end of the peptide is linked to a tosyl group and the

carboxyl terminal end of the peptide is linked to a p-nitroanilide p-nitroanalide group.

13. (Currently amended) A kit for assaying an activation state of a platelets comprising:

(a) a substrate of a prothrombin-converting enzyme, prothrombinase said substrate

having the property that when said substrate is converted by said prothrombin-converting

enzyme to a product, said which has been modified so that, when catalyzed by prothrombinase, a

modified prothrombinase product which does not activate platelets is produced; and

(b) an assay of said product a prothrombinase product assay.

14. (Currently amended) The kit according to claim 13 wherein the prothrombinase

product assay of said product is selected from the group consisting of a Western blot, an Enzyme

Linked ImmunoSorbent Assay (ELISA), an immunodiffusion assay, a surface plasmin plasmon

resonance assay, a chromogenic peptide cleavage assay, a polyacrylamide gel electrophoresis

analysis, and a fluorescence proximity assay.

15. (Currently amended) The kit of claim 13 wherein the modified prothrombinase

substrate is prothrombin which is chemically derivatized by the addition of one or more chemical

groups selected from the group consisting of an acyl group, an acetyl group, a succinyl group, a

maleyl group, a polyethylene glycol group, an acetylated polyethylene glycol group, a pyridoxal

5'-phosphate group and a dichlorotriazinylaminofluorescinyl group.

16. (Currently amended) The kit of claim 13 wherein the modified prothrombinase

substrate is a product of an allele of a prothrombin gene selected from the group consisting of

Metz and Quick I.

17. (Currently amended) The kit of claim 13 wherein the prothrombinase product assay

of said product comprises reagents for a chromogenic peptide cleavage assay wherein the

reagents comprise a peptide having a sequence cleaved by thrombin.

18. (Currently amended) The kit of claim 17 wherein the peptide is glycyl-L-prolyl L-

arginine wherein the amino terminal end of the peptide is linked erosslinked to a tosyl group and

the carboxyl terminal end of the peptide is linked crosslinked to a p-nitroanalide p-nitroanilide

group.

19. (Currently amended) The kit of claim 13 further comprising one or more reagents

selected from the group consisting of human a thrombin thrombin, calcium ionophore A23187,

factor Xa, Sulfo-N-succinimidyl acetate, factor Va and phospholipid vesicles comprising

phosphatidylserine and phosphatidylcholine.

20. (Original) The kit of claim 13 further comprising one or more components selected

from the group consisting of a glass vial, a microtiter plate, water and a syringe.